

ANNEX A: annotated claims list with support (i.e. reference numerals from figures) for amended claims

Claims:

1. (Currently amended) An air handling system for an indoor space (1) comprising
a forced indoor air treatment component (9),
an input indoor air duct element (3) and an output treated air duct element (5)
respectively coupling said indoor air treatment component (9) to said indoor space
(1),

a forced fresh air ventilator component (7) for discharging stale air from the indoor space (1) to an outdoor environment and for replacing the discharged air with make-up air from the outdoor environment, said fresh air ventilator component (7) comprising stale air input means (21 – figure 3) coupled to a stale air output means (23 – figure 3) and fresh make-up air input means (25 – figure 3) coupled to a fresh ~~return~~ air output means (27 – figure 3)

a stale air duct element (33 – figures 1 & 3) coupled to said stale air input means (21 – figure 3) and to said input indoor air duct element (3),

a primary fresh ~~return~~ air duct element (35 – figures 1 & 3) coupling said fresh ~~return~~ air output means (27 – figure 3) to said output treated air duct element (5)

characterized in that said system comprises

a further secondary fresh air path means (41) ~~for~~ coupling said fresh ~~return~~ air output means (27 – figure 3) to said input indoor air duct element (3), and wherein said further secondary fresh air path means comprises an air duct element having a first end coupled to said fresh air output means (27 – figure 3) and a second end coupled to said input indoor air duct element (3).

2. (Currently amended) A system as defined in claim 1 comprising

a first air flow control means comprising a first damper element (50) associated with said ~~return~~ primary fresh air duct element (35), said first damper element (50) being

independently displaceable between a blocking configuration and a non-blocking configuration,

a second air flow control means comprising a second damper element (52) associated with said further secondary fresh air path means (41), said second damper element (52) being independently displaceable between a blocking configuration and a non-blocking configuration,

wherein in said respective blocking configuration, said first and second damper elements (50 & 52) are respectively disposed to close off said ~~return~~ primary fresh air duct element (35) and said further secondary fresh air path means (41) to air flow, and in said respective non-blocking configuration, said first and second damper elements (50 & 52) are respectively disposed such that air is able to circulate through said ~~return~~ primary fresh air duct element (35) and said further secondary fresh air path means (41),

wherein said second air flow control means is configured such that, when an indoor air treatment component air blower means associated with said forced indoor air treatment component and a ventilation air blower means associated with said forced fresh air ventilator component are both activated, said second damper element (52) is in said non-blocking configuration

and

wherein said first and said second air flow control means are each configured such that, when only the ventilation air blower means is activated, said first damper element (50) is in said non-blocking configuration and said second damper element (52) is in said blocking configuration.

3. (Original) A system as defined in claim 1 wherein said forced indoor air treatment component is a forced air furnace component (9) and said output treated air duct element is an output heated air duct element (5).

4. (Currently amended – see original claim 3) A system as defined in claim 3 ~~wherein said secondary air path means comprises a reflux air duct element coupled to said return air duct element and to said input indoor air duct element.~~ 2 wherein said forced indoor air treatment component is a forced air furnace component and said output treated air duct element is an output heated air duct element.

5. (cancelled) ~~A system as defined in claim 4 comprising~~

~~a first air flow control means comprising a first damper element associated with said return air duct element, said first damper element being independently displaceable between a blocking configuration and a non-blocking configuration,~~

~~a second air flow control means comprising a second damper element associated with said reflux air duct element, said second damper element being independently displaceable between a blocking configuration and a non-blocking configuration,~~

~~wherein in said respective blocking configuration, said first and second damper elements are respectively disposed to close off said return air duct element and said reflux air duct element to air flow, and in said respective non-blocking configuration, said first and second damper elements are respectively disposed such that air is able to circulate through said return air duct element and said reflux air duct element,~~

~~wherein said second air flow control means is configured such that, when a furnace air blower means associated with said forced air furnace component and a ventilation air blower means associated with said forced fresh air ventilator component are both activated, said second damper element is in said non-blocking configuration~~
~~and~~

~~wherein said first and said second air flow control means are each configured such that, when only the ventilation air blower means is activated, said first damper element is in said non-blocking configuration and said second damper element is in said blocking configuration.~~

6. (Currently amended) A system as defined in claim ~~5~~ 4 wherein said first and said second air flow control means are each configured such that, when a furnace air blower means associated with said forced air furnace component (9) and a ventilation air blower means associated with said forced fresh air ventilator component (7) are both activated, said first damper element (50) and said second damper element (52) are each in said non-blocking configuration.

7. (Currently amended) A system as defined in claim ~~5~~ 4 wherein said first and said second air flow control means are each configured such that, when only ~~said~~ a furnace air blower means associated with said forced air furnace component (9) is activated, said first damper element (50) and said second damper element (52) are each in said blocking configuration.

8. (cancelled) ~~A system as defined in claim 5 wherein said first and said second air flow control means are each configured such that, when only the ventilation air blower means is activated, said first damper element is in said non blocking configuration and said second damper element is in said blocking configuration.~~

9. (Currently amended) A system as defined in claim ~~5~~ 4 wherein said first and said second air flow control means are each configured such that, when both ~~the~~ a furnace air blower means associated with said forced air furnace component (9) and ~~the~~ a ventilation air blower means associated with said forced fresh air ventilator component (7) are unactivated, said first damper element (50) and said second damper element (52) are each in said blocking configuration.

10. (Currently amended) A system as defined in claim ~~5~~ 4 wherein said stale air duct element (33) is coupled to said input indoor air duct element (3) at a first position upstream of said forced air furnace component (9) and said ~~reflux~~ air duct element of said further secondary fresh air path means is coupled to said input indoor air duct element (3)

at a second position downstream of said first position and upstream of said forced air furnace component (9).

11. (Currently amended) A system as defined in claim 5 ~~4~~ wherein said first air flow control means comprises a first biasing element biasing said first damper element (50) in said blocking configuration and wherein said second air flow control means comprises a second biasing element biasing said second damper element (52) in said blocking configuration.

12. (Currently amended) A system as defined in claim 4 wherein said ~~return~~ primary fresh air duct element (35) comprises a manifold ~~element~~ component (43), said manifold ~~element~~ component (43) comprising an air inlet, a first air outlet and a second air outlet, said air inlet being coupled to said ~~return~~ fresh air output means (27), said first air outlet being coupled to said output heated air duct element (5) ~~so as to define an upstream a connection between the manifold element component (43) and the output heated air duct element (5); and~~ said ~~reflux~~ first end of said air duct element of said further secondary fresh air path means being coupled to said second air outlet, ~~said first damper element (5) being associated with said upstream connection.~~

13. (Original) A system as defined in claim 12 wherein said first damper element (50) is associated with said first air outlet.

14. (Original) A system as defined in claim 13 wherein, said second damper (52) is associated with said second air outlet.

15. (Currently amended) A system as defined in claim 4 wherein said forced fresh air ventilator component (7) comprises heat recovery means for exchanging heat between ~~the~~ discharged said stale air and ~~the~~ said make-up air.

16. (Currently amended) A system as defined in claim 4 comprising control means electrically coupled to ~~the~~ a furnace blower means associated with said forced air furnace

component (9) and ~~the~~ a ventilation air blower means associated with said forced fresh air ventilator component (7) for independently electrically actuating same.

17. (Original) A system as defined in claim 11 wherein said first air flow control means and said second air flow control means are each configured such that said first damper element (50) and said second damper element (52) are each respectively air pressure displaceable from said blocking configuration to said non-blocking configuration.

18. (Currently amended) A system as defined in claim 12 wherein said stale air duct element (33) is coupled to said input indoor air duct element (3) at a first position upstream of said forced air furnace component (9) and said ~~reflux~~ second end of said air duct element of said further secondary fresh air path means (41) is coupled to said input indoor air duct element (3) at a second position downstream of said first position and upstream of said forced air furnace component (9).

19. (Original) A system as defined in claim 18 wherein said first air flow control means comprises a first biasing element biasing said first damper element (50) in said blocking configuration and wherein said second air flow control means comprises a second biasing element biasing said second damper element (52) in said blocking configuration.

20. (Original) A system as defined in claim 19 wherein said first air flow control means and said second air flow control means are each configured such that said first damper element (50) and said second damper element (52) are each respectively air pressure displaceable from said blocking configuration to said non-blocking configuration.

21. (Currently amended) A system as defined in claim 20 wherein said forced fresh air ventilator component (7) comprises heat recovery means for exchanging heat between ~~the discharged~~ said stale air and ~~the~~ said make-up air.

22. (Original) A system as defined in claim 21 wherein said first damper element (50) is associated with said first air outlet.

23. (Original) A system as defined in claim 22 wherein, said second damper element (52) is associated with said second ~~air~~ air outlet.

24. (Currently amended) A system as defined in claim-~~5~~ 23 wherein said first and said second air flow control means are each configured such that, when only said a furnace air blower means associated with said forced air furnace component (9) is activated, said first damper element (50) and said second damper element (52) are each in said blocking configuration ~~and wherein said first and said second air flow control means are each configured such that, when only the ventilation air blower means is activated, said first damper element is in said non-blocking configuration and said second damper element is in said blocking configuration.~~

25. (Currently amended – see original claim 1 and 25) An air handling system as defined in claim 4 wherein said return air duct element comprises a manifold element, said manifold element comprising an air inlet, a first air outlet and a second air outlet, said air inlet being coupled to said return air output means, said first outlet being coupled to said output heated air duct element so as to define an upstream connection between the manifold element and the output heated air duct element, said reflux air duct element being coupled to said second outlet, said first damper element being associated with said upstream connection.

for an indoor space (1) comprising

a forced air furnace component (9),

an input indoor air duct element (3) and an output heated air duct element (5) respectively coupling said forced air furnace component (9) to said indoor space (1),

a forced fresh air ventilator component (7) for discharging stale air from the indoor space (1) to an outdoor environment and for replacing the discharged air with make-up air from the outdoor environment, said fresh air ventilator component (7) comprising stale air input means (21 – figure 3) coupled to a stale air output means (23 – figure 3) and fresh

make-up air input means (25 – figure 3) coupled to a fresh air output means (27 – figure 3)

a stale air duct element (33 – figures 1 & 3) coupled to said stale air input means (21 – figure 3) and to said input indoor air duct element (3),

a primary fresh air duct element (35 – figures 1 & 3) coupling said fresh air output means (27 – figure 3) to said output heated air duct element (5)

characterized in that said system comprises

a further secondary fresh air path means (41) coupling said fresh air output means (27 – figure 3) to said input indoor air duct element (3), wherein said further secondary fresh air path means comprises an air duct element having a first end and a second end, said second end being coupled to said input indoor air duct element (3)

and wherein said primary fresh air duct element (35) comprises a manifold component, said manifold component (43) comprising an air inlet, a first air outlet, a second air outlet, a first damper element (50) associated with said first air outlet, and a second damper element (52) associated with said second air outlet, said air inlet being coupled to said fresh air outlet means (27), said first air outlet being coupled to said output heated air duct element (5) and said second air outlet being coupled to said first end of said air duct element of said further secondary fresh air path means.

26. (Currently amended) A system as defined in claim 25 wherein said stale air duct element (33) is coupled to said input indoor air duct element (3) at a first position upstream of said forced air furnace component (9) and said ~~reflux~~ second end of said air duct element of said further secondary fresh air path means (41) is coupled to said input indoor air duct element (3) at a second position downstream of said first position and upstream of said forced air furnace component (9).

27. (Original) A system as defined in claim 26 wherein said first air flow control means comprises a first biasing element biasing said first damper element (50) in said blocking configuration and wherein said second air flow control means comprises a second biasing element biasing said second damper element (52) in said blocking configuration.

28. (Original) A system as defined in claim 27 wherein said first air flow control means and said second air flow control means are each configured such that said first damper element (50) and said second damper element (52) are each respectively air pressure displaceable from said blocking configuration to said non-blocking configuration.

29. (Currently amended) A system as defined in claim 28 wherein said forced fresh air ventilator component (7) comprises heat recovery means for exchanging heat between ~~the discharged~~ said stale air and ~~the~~ said make-up air.

30. (Original) A system as defined in claim 29 wherein said first damper element (50) is associated with said first air outlet.

31. (Original) A system as defined in claim 30 wherein, said second damper element (52) is associated with said second air outlet.

32. (Currently amended) An air manifold ~~element~~ component, for an air handling system for an indoor space (1) said air handling system comprising
a forced indoor air treatment component (9),
an input indoor air duct element (3) and an output treated air duct element (5)
respectively coupling said indoor air treatment component (9) to said indoor space (1),

a second forced air treatment component (7)

a stale air duct element (33 – fig 1 & 3) coupled to said second forced air treatment component (7) and to said input indoor air duct element (3),

a primary return output air duct element (35 – fig 1 & 3) coupling said second forced air treatment component (7) to said output treated ~~heated~~ air duct element (5), said primary output air duct element (35) comprising said manifold component (43).

and

a further secondary output air path means (41) for coupling said primary return output air duct element (35) to said input indoor air duct element (3), wherein said further secondary output air path means (41) comprises an air duct element having a first end for

being coupled to said manifold component (43) and a second end for being coupled to said input indoor air duct element (3).

said manifold ~~element~~ component (43) comprising an air inlet, a first air outlet, a second air outlet, a first damper element (50) associated with said first air outlet, and a second damper element (52) associated with said second air outlet, said air inlet being configured for being coupled to said second forced air treatment component (7) ~~return air duct element (35)~~, said first air outlet being configured for being coupled to said output treated air duct element (5) ~~so as to define an upstream a connection between the manifold element (43) and the output treated air duct element (5)~~, and said second air outlet being configured for being coupled to said first end of said further secondary output air path means (41).

33. (Currently amended) An air handling system for an indoor space (1) comprising
a first forced indoor air treatment component (9),
an input indoor air duct element (3) and an output treated air duct element (5)
respectively coupling said first forced indoor air treatment component (9) to said indoor space (1),

a second forced air treatment component (7)

a stale air duct element (33 – fig. 1 & 3) coupled to said second forced air treatment (7) component and to said input indoor air duct (3),

a primary output ~~return~~ air duct element (35) coupling said second forced air treatment (7) component to said output treated air duct element (5)

characterized in that said system comprises a further secondary output air path means (41) ~~for~~ coupling said primary output ~~return~~ air duct element (35) to said input indoor air duct element (3), and wherein said further secondary output air path means comprises an air duct element having a first end coupled to said primary output air duct element (35) and a second end coupled to said input indoor air duct element (3).

34. (NEW – see original claims 12 and 25 as well as claims 32 and 33) An air handling system for an indoor space (1) comprising

a first forced indoor air treatment component (9),
an input indoor air duct element (3) and an output treated air duct element (5)
respectively coupling said first forced indoor air treatment component (9) to said
indoor space (1),

a second forced air treatment component (7)

a stale air duct element (33 – fig. 1 & 3) coupled to said second forced air treatment
component (7) and to said input indoor air duct (3),

a primary output air duct element (35) coupling said second forced air treatment (7)
component to said output treated air duct element (5)

characterized in that said system comprises a further secondary output air path means
(41) coupling said primary output air duct element (35) to said input indoor air duct
element (3), wherein said further secondary output air path means comprises an air duct
element having a first end and a second end, said second end being coupled to said input
indoor air duct element (3) and wherein said primary output air duct element (35)
comprises a manifold component (43),

said manifold component (43) comprising an air inlet, a first air outlet, a second air
outlet, a first damper element (50) associated with said first air outlet, and a second
damper element (52) associated with said second air outlet, said air inlet being coupled
to said second forced air treatment component (7) said first air outlet being coupled to
said output treated air duct element (5) and said second air outlet being coupled to said
first end of said air duct element of said secondary output air path means.